State of Utah

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Governor

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Lieutenant Governor

Department of Administrative Services
RICHARD K. ELLIS
Executive Director

Division of Facilities Construction and Management
F. KEITH STEPAN
Director

ADDENDUM #1

Date: September 25, 2006

To: Contractors

From: Jeff Reddoor, Project Manager, DFCM

Reference: Fire Alarm System Upgrade – Cedar City Firth District Court
Administrative Office of the Courts
DFCM Project No. 06109150

Subject: **Addendum No. 1**

Pages			
	Addendum Cover	1	page
	Revised Project Schedule	1	page
	Revised Bid Form	2	pages
	PCI - Revision to Fire Protection Drawings/FA-1, FA-2	4	pages
	Total	**8**	**pages**

Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

1.1 SCHEDULE CHANGES – There has been a change to the Project Schedule and Bid Form.
The revised Project Schedule dated September 25, 2006, reflects a change to the ***Project Completion Dates.*** The completion date has ***changed to January 28, 2007.***

1.2 GENERAL – Drawings
Letter describing drawings revisions and responding to questions received during pre-bid walkthrough.
Revised sheet FA-1
Revised sheet FA-2

End of Addendum #1

STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES

Division of Facilities Construction and Management

DFCM

PROJECT SCHEDULE – REVISED
PER ADDENDUM NO. 1 DATED SEPTEMBER 25, 2006

PROJECT NAME: **FIRE ALARM SYSTEM UPGRADE – CEDAR CITY FIFTH DISTRICT COURT ADMINISTRATIVE OFFICE OF THE COURTS – CEDAR CITY, UTAH**

DFCM PROJECT #: **06109150**

Event	Day	Date	Time	Place
Bidding Documents Available	Tuesday	September 12, 2006	10:00 AM	DFCM 4110 State Office Bldg SLC, UT or DFCM web site *
Mandatory Pre-bid Site Meeting	Tuesday	September 19, 2006	11:00 AM	Cedar City Fifth District Court 40 North 100 East Cedar City, UT
Last Day to Submit Questions	Thursday	September 21, 2006	3:00 PM	Greg Jones Phone 801-596-1601 Protection Consultants, Inc. 182 South 600 East #202 SLC, UT
Final Addendum Issued	Monday	September 25, 2006	1:00 PM	DFCM web site *
Prime Contractors Turn In Bid and Bid Bond / Bid Opening in DFCM Conference Room	Tuesday	September 26, 2006	3:30 PM	DFCM 4110 State Office Bldg SLC, UT
Sub-contractor List Due	Wednesday	September 27, 2006	3:30 PM	DFCM 4110 State Office Bldg SLC, UT
Project Completion	**Sunday**	**January 28, 2007**		

*** DFCM's web site address is http://dfcm.utah.gov**

STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES

Division of Facilities Construction and Management

DFCM

BID FORM – REVISED
PER ADDENDUM NO. 1 DATED SEPTEMBER 25, 2006

NAME OF BIDDER _____ DATE _____

To the Division of Facilities Construction and Management
4110 State Office Building
Salt Lake City, Utah 84114

The undersigned, responsive to the "Notice to Contractors" and in accordance with the "Instructions to Bidders", in compliance with your invitation for bids for the **FIRE ALARM SYSTEM UPGRADE – CEDAR CITY FIFTH DISTRICT COURT – ADMINISTRATIVE OFFICE OF THE COURTS CEDAR CITY, UTAH – DFCM PROJECT NO. 06109150** and having examined the Contract Documents and the site of the proposed Work and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of labor, hereby proposes to furnish all labor, materials and supplies as required for the Work in accordance with the Contract Documents as specified and within the time set forth and at the price stated below. This price is to cover all expenses incurred in performing the Work required under the Contract Documents of which this bid is a part:

I/We acknowledge receipt of the following Addenda: _____

For all work shown on the Drawings and described in the Specifications and Contract Documents, I/we agree to perform for the sum of:

_____ DOLLARS ($_____)
(In case of discrepancy, written amount shall govern)

I/We guarantee that the Work will be Substantially Complete by **Sunday, January 28, 2007** after receipt of the Notice to Proceed, should I/we be the successful bidder, and agree to pay liquidated damages in the amount of **$500.00** per day for each day after expiration of the Contract Time as stated in Article 3 of the Contractor's Agreement.

This bid shall be good for 45 days after bid opening.

Enclosed is a 5% bid bond, as required, in the sum of _____

The undersigned Contractor's License Number for Utah is _____

Upon receipt of notice of award of this bid, the undersigned agrees to execute the contract within ten (10) days, unless a shorter time is specified in the Contract Documents, and deliver acceptable Performance and Payment bonds in the prescribed form in the amount of 100% of the Contract Sum for faithful performance of the contract.

The Bid Bond attached, in the amount not less than five percent (5%) of the above bid sum, shall become the property of the Division of Facilities Construction and Management as liquidated damages for delay and additional expense caused thereby in the event that the contract is not executed and/or acceptable l00% Performance and Payment bonds are not delivered within the time set forth.

Type of Organization:

_____
(Corporation, Partnership, Individual, etc.)

Any request and information related to Utah Preference Laws:

_____

Respectfully submitted,

_____
Name of Bidder

ADDRESS:

_____

_____

_____
Authorized Signature

PROTECTION CONSULTANTS, INC.
Fire Protection Engineers
-Since 1983-

Date: September 22, 2006

To: Jeff Reddoor
State of Utah DFCM

From: Greg Jones
Protection Consultants, Inc.

Project: Cedar City Hall of Justice – DFCM 06109150

Subject: Revisions to Fire Protection Drawings for Addendum 1

Based on questions presented and conditions observed in the pre-bid walkthrough held Tuesday September 19, 2006 at the Cedar City Hall of Justice, several revisions were made to the drawings. A brief description of the revisions made to each drawing sheet is included below. Revisions are clouded on the drawings. In addition, a summary of questions asked during the pre-bid walkthrough is included along with my responses to those questions. The revised drawings and this letter should be issued to each bidding contractor with Addendum 1 to allow bidding contractors to rapidly identify the revisions to the contract documents.

Sheet FA-1:

1. Added the garage to the plans. One notification appliance, one pull station and one detector must be replaced in the garage. The type of detector provided in the garage shall be a heat detector.
2. Added three exterior fire alarm horns. The new horns will replace existing devices.
3. Revised the drawings to eliminate fire alarm interface with card access doors separating the courtrooms from the secure area of the building.
4. Added flush mounted door strikes and control relays at three exit doors to allow fire alarm system to bypass existing delayed egress locks.
5. Added one existing door holder that was missed on bid plans.
6. Added 13 new magnetic door holders as directed by Dwight Palmer during pre-bid walkthrough.
7. Revised general note 5 to clarify requirement for painting wall (or providing cover plate) where new wall mounted devices are smaller than existing devices that are replaced.
8. Added protective covers with tamper alarms to new pull stations at two secure exits.

182 South 600 East, Suite 202
Salt Lake City, UT 84102
Phone (801)596-1601 Fax (801)596-2561

Sheet FA-2:

9. Updated notification circuit detail per addition of 3 exterior horns and 1 horn strobe in garage.
10. Added one pull station and one heat detector to SLC-2 for garage on FACP riser detail.
11. Removed control modules for secure door release from SLC circuits on FACP riser detail.
12. Added control modules on FACP riser detail for door strike release at delayed egress doors.
13. Updated quantity of devices reported for each SLC.
14. Edited sequence of operation to indicate that duct smoke detectors shall be programmed to provide a supervisory signal.

Pre-Bid Walkthrough Questions/Responses:

Question 1: Project schedule allows 90 days for project completion (December 29, 2006). How firm is that schedule?

Response: Schedule can be extended to 120 days (January 28, 2007) if required but no further.

Question 2: Will the same phone lines be used for security system and fire alarm system signal transmission?

Response: The two existing phone lines at the DACT shall be extended to the location of the new FACP used for fire alarm signal transmission. Owner will phone new phone line for security system. Connection of new security phone line to existing DACT by contractor.

Question 3: Can work be performed during business hours?

Response: Work can be performed during business hours but must be scheduled in advance with building coordinator. Court schedules will take priority over work. Work in another part of the building will not be allowed to disturb courts in session.

Question 4: Since fire alarm protection must be continuous throughout the project there will be a period of time when some devices are connected to the new FACP while other devices are still connected to the old FACP. Will it be necessary to configure the new panel to transmit signals off premise during construction?

Response: Yes. Off premise transmission of fire alarm signals (alarm, supervisory and trouble) for ALL initiating devices must be provided at all times or a fire watch will be required.

Question 5: Can duct smoke detectors be monitored as a supervisory condition?

Response: Yes. Supervisory signal for the duct detectors is acceptable. Sequence of operation on the contract drawings will be edited accordingly.

FIRE ALARM SYSTEM GENERAL NOTES

1. SCOPE OF WORK: WORK SHALL INCLUDE REMOVAL OF EXISTING CONVENTIONAL FIRE ALARM SYSTEM INCLUDING ALL CONTROL EQUIPMENT, POWER SUPPLIES, CABINETS, INIT. CIRCUITS AND DEVICES, NOTIFICATION APPLIANCE CIRCUITS AND DEVICES. INSTALL NEW FIRE ALARM SYSTEM INCLUDING CONTROL PANEL WITH NEW SIGNALING LINE CIRCUITS, INITIATING DEVICE CIRCUITS AND NOTIFICATION APPLIANCE CIRCUITS. NEW FIRE ALARM SYSTEM SHALL BE IN ACCORDANCE WITH NFPA 72, THESE DRAWINGS AND SPECIFICATIONS.

2. APPLICABLE CODES/STANDARDS:
   INTERNATIONAL BUILDING CODE - 2003 EDITION
   INTERNATIONAL FIRE CODE - 2003 EDITION
   INTERNATIONAL MECHANICAL CODE - 2003 EDITION
   UTAH STATE FIRE MARSHAL RULE R710-4
   NFPA 70 - 2002 EDITION
   NFPA 72 - 2002 EDITION
   NFPA 90A - 2002 EDITION

3. QUALITY ASSURANCE: ALL EQUIPMENT, MATERIAL AND DEVICES USED FOR THE FIRE ALARM SYSTEM INSTALLATION SHALL BE UL LISTED AND/OR FM APPROVED FOR USE IN FIRE PROTECTION SYSTEMS. ALL INITIATING DEVICES SHALL BE LISTED COMPATIBLE WITH THE FIRE ALARM CONTROL PANEL (FACP). MAJOR SYSTEM COMPONENTS (CONTROL PANELS, INITIATING DEVICES, ADDRESSABLE MODULES AND RELAYS, POWER SUPPLIES, ETC.) SHALL BE FROM A STATE OF UTAH DFCM APPROVED MANUFACTURER. APPROVED MANUFACTURERS INCLUDE FIRE-LITE AND SILENT KNIGHT.

4. SUBMITTALS: FIRE ALARM SYSTEM CONTRACTOR SHALL PREPARE AND SUBMIT SHOPS DRAWINGS TO STATE FIRE MARSHAL, OWNER AND ENGINEER FOR REVIEW/APPROVAL PRIOR TO ORDERING OR INSTALLING ANY EQUIPMENT. SUBMITTALS SHALL CONFORM TO THE CONSTRUCTION DOCUMENTS REQUIREMENTS OF IFC 907.1.1.

5. DEMOLITION: IT IS THE INSTALLER'S RESPONSIBILITY FOR THE DEMOLITION OF THE EXISTING FIRE ALARM SYSTEM. ALL NEW DEVICES AND CIRCUITS WILL REPLACE THE OLD AND GENERALLY REUSE THE EXISTING LOCATIONS. ANY EXISTING DEVICES AND CONDUIT NOT BEING REPLACED AND REUSED THAT ARE VISIBLE, SUCH AS CABINETS NOTIFICATION APPLIANCES OR SMOKE DETECTORS SHALL BE REMOVED AND REMAINING WALL OR CEILING SURFACE REPAIRED OR REPLACED TO MATCH SURROUNDING AREAS. WHERE PROFILE OF NEW WALL MOUNTED NOTIFICATION APPLIANCE IS SMALLER THAN EXISTING DEVICE REMOVED CONTRACTOR SHALL PAINT NEWLY EXPOSED WALL SURFACE TO MATCH EXISTING OR SHALL PROVIDE A DECORATIVE WALL PLATE OR ESCUTCHEON APPROVED BY THE OWNER. REMOVE ALL UNUSED WIRE IN ALL REMAINING J-BOXES AND/OR CONDUITS. ANY CEILING TILE DAMAGED BY THE INSTALLER MUST BE REPLACED WITH THE SAME OR EQUIVALENT TILE. (1)

6. SYSTEM TYPE: FIRE ALARM SYSTEM SHALL MEET THE REQUIREMENTS FOR PROTECTED PREMISE FIRE ALARM SYSTEMS. SYSTEM SHALL PROVIDE OFF-PREMISE NOTIFICATION OF STATUS TO CENTRAL STATION DETERMINED BY OWNER.

7. OCCUPANT NOTIFICATION: RECEIPT OF ANY FIRE ALARM SIGNAL AT THE FACP SHALL RESULT IN THE ACTIVATION OF ALL NOTIFICATION APPLIANCES IN THE BUILDING (STROBES AND HORN/STROBES). FOR PURPOSES OF FIRE ALARM NOTIFICATION, THE BUILDING SHALL BE CONSIDERED AS A SINGLE ZONE.

8. WIRING/CONDUIT: ALL WIRING SHALL BE NEW (EXISTING WIRING MAY NOT BE RE-USED) AND SHALL BE FREE OF OPENS, SHORTS AND GROUNDS. ALL WIRING SHALL BE INSTALLED IN RIGID CONDUIT OR EMT. FLEXIBLE CONDUIT MAY BE USED FOR DROPS TO SINGLE DEVICES (MAXIMUM 6'). MINIMUM CONDUIT SIZE SHALL BE 1/2". CONDUIT SHALL BE CONCEALED IN FINISHED AREAS AND MAY BE EXPOSED IN UNFINISHED AREAS. PAINT EXPOSED CONDUIT TO MATCH COLOR OF SURROUNDING BUILDING ELEMENTS. ALL PENETRATIONS THROUGH RATED PARTITIONS SHALL BE FIRE STOPPED WITH A SUITABLE CAULKING COMPOUND. ALL WIRING USED IN THE FIRE ALARM SYSTEM SHALL BE FPL (FIRE, POWER LIMITED) WITH MINIMUM 300V INSULATION OR EQUIVALENT AS PER NFPA 70 ARTICLE 760.

9. WIRING STYLES(PER NFPA 72): INITIATING DEVICE CIRCUITS SHALL MEET THE REQUIREMENTS FOR CLASS A STYLE D CIRCUITS. SIGNALING LINE CIRCUITS SHALL MEET THE REQUIREMENTS FOR CLASS A STYLE 6 OR 7 CIRCUITS. NOTIFICATION APPLIANCE CIRCUITS SHALL MEET THE REQUIREMENTS FOR CLASS A STYLE Z.

10. POWER: EXISTING DEDICATED BRANCH CIRCUITS MAY BE REUSED TO PROVIDE PRIMARY POWER TO NEW FACP AND REMOTE NOTIFICATION CIRCUIT POWER SUPPLIES. FURNISH A BATTERY BACKUP TO PROVIDE SECONDARY POWER SUPPLY TO FIRE ALARM PANEL AND NOTIFICATION CIRCUIT POWER SUPPLIES. BATTERY BACKUP SHALL BE OF SUFFICIENT CAPACITY TO PROVIDE 24 HOURS OF STANDBY POWER WITH AN ADDITIONAL RESERVE TO OPERATE SYSTEM FOR 5 MINUTES IN ALARM.

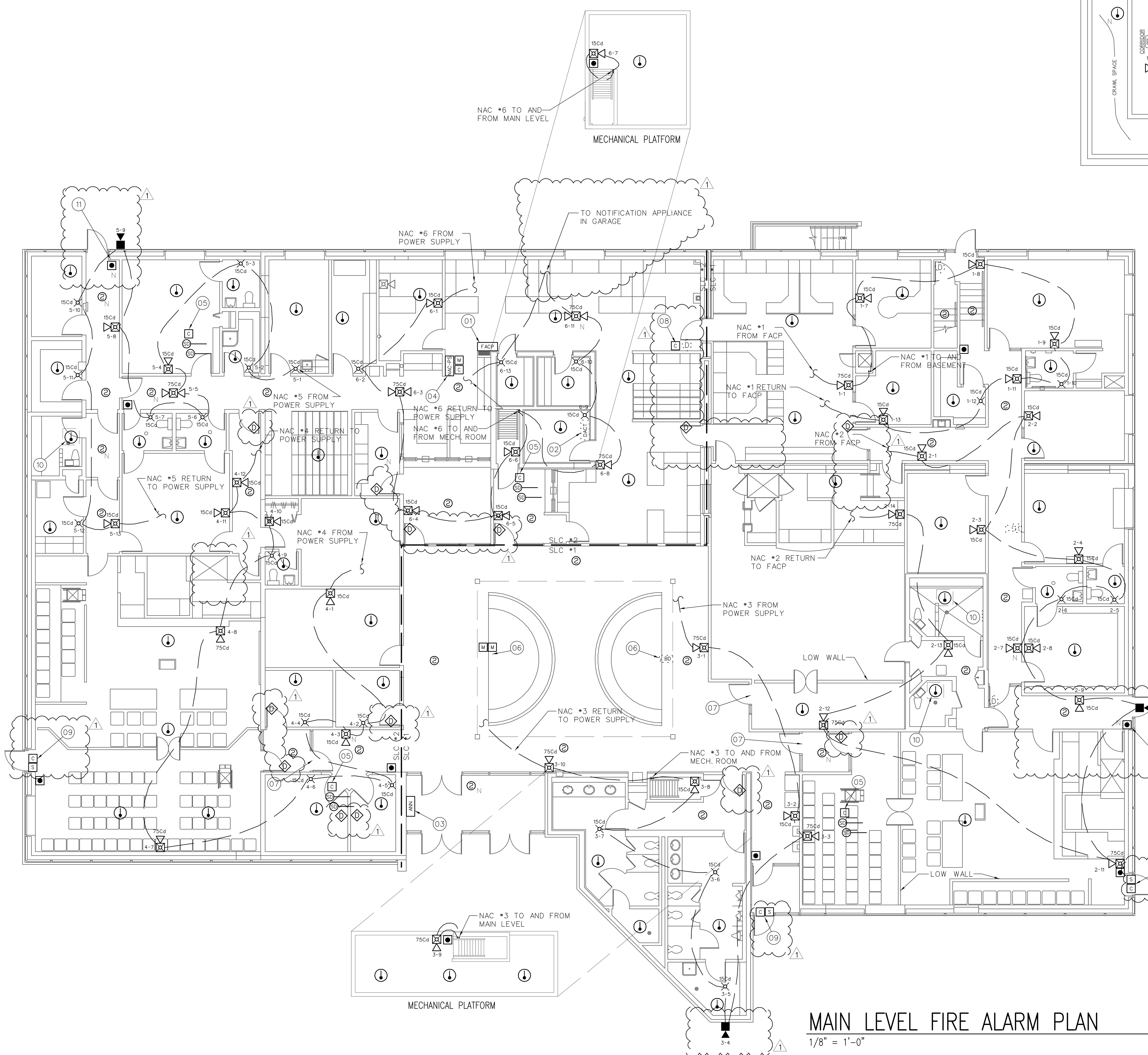
11. INITIATING DEVICES:
    SLC CIRCUITS: SLC LOOP DEVICE ADDRESSING SHALL NOT EXCEED 159 DETECTORS (SMOKES, HEATS, DUCT SMOKES, ETC.) OR 159 MODULES (PULL STATIONS, MONITOR, CONTROL, ETC.) PER LOOP. AT LEAST 30 ADDRESSES (20%) SHOULD BE LEFT VACANT ON EACH SLC LOOP IN ORDER TO ALLOW SPACE FOR ADJUSTMENTS/EXPANSION:
    SMOKE DETECTORS: PROVIDE SMOKE DETECTORS WHERE SHOWN ON PLANS IN ALL CORRIDORS AND LOBBIES. MAXIMUM SPACING OF DETECTORS SHALL BE 30' BETWEEN DETECTORS OR 15' FROM FURTHEST WALL.
    MANUAL PULL STATIONS: INSTALL NEW PULL STATIONS AT SAME LOCATION AND HEIGHT AS EXISTING PULL STATIONS USING EXISTING JUNCTION BOXES. WHERE NEW MANUAL PULL STATIONS ARE INDICATED ON THE PLAN INSTALL WITH OPERATING ELEMENT AT 48" AFF.
    HEAT DETECTORS: PROVIDE HEAT DETECTORS WHERE SHOWN ON PLANS IN ALL AREAS NOT PROTECTED WITH SMOKE DETECTORS. MAXIMUM SPACING FOR HEAT DETECTORS SHALL BE 50' BETWEEN DETECTORS OR 25' FROM FURTHEST WALL.
    ADDRESSABLE MODULES: PROVIDE ADDRESSABLE MODULES TO MONITOR EXISTING CONVENTIONAL DEVICES (PROJECTED BEAM SMOKE DETECTOR) TO REMAIN AND TROUBLE OUTPUT OF NEW NOTIFICATION CIRCUIT POWER SUPPLIES. LOCATE MONITOR MODULE ADJACENT TO DEVICE MONITORED IN AN ACCESSIBLE LOCATION OR ABOVE REMOVABLE CEILING TILE. LABEL AS PART OF THE FIRE ALARM SYSTEM WITH THE NAME OF THE DEVICE MONITORED ON THE COVER OF THE JUNCTION BOX.

12. NOTIFICATION APPLIANCES: PROVIDE AUDIBLE AND VISUAL NOTIFICATION APPLIANCES THROUGHOUT BUILDING. WALL MOUNTED DEVICES MAY BE INSTALLED ON EXISTING J-BOXES. VOLUME OF HORNS SHALL BE SUFFICIENT TO PROVIDE A SOUND LEVEL OF 15 Db ABOVE AMBIENT IN ALL OCCUPIED AREAS. VISIBLE ALARMS SHALL BE PROVIDED THROUGHOUT ALL OCCUPIED AREAS OF THE BUILDING INCLUDING PRIVATE OFFICES AND AREAS WITH POSSIBLE OCCUPANCY BY HEARING IMPAIRED PERSONS. STROBES SHALL FLASH IN SYNCHRONIZATION.

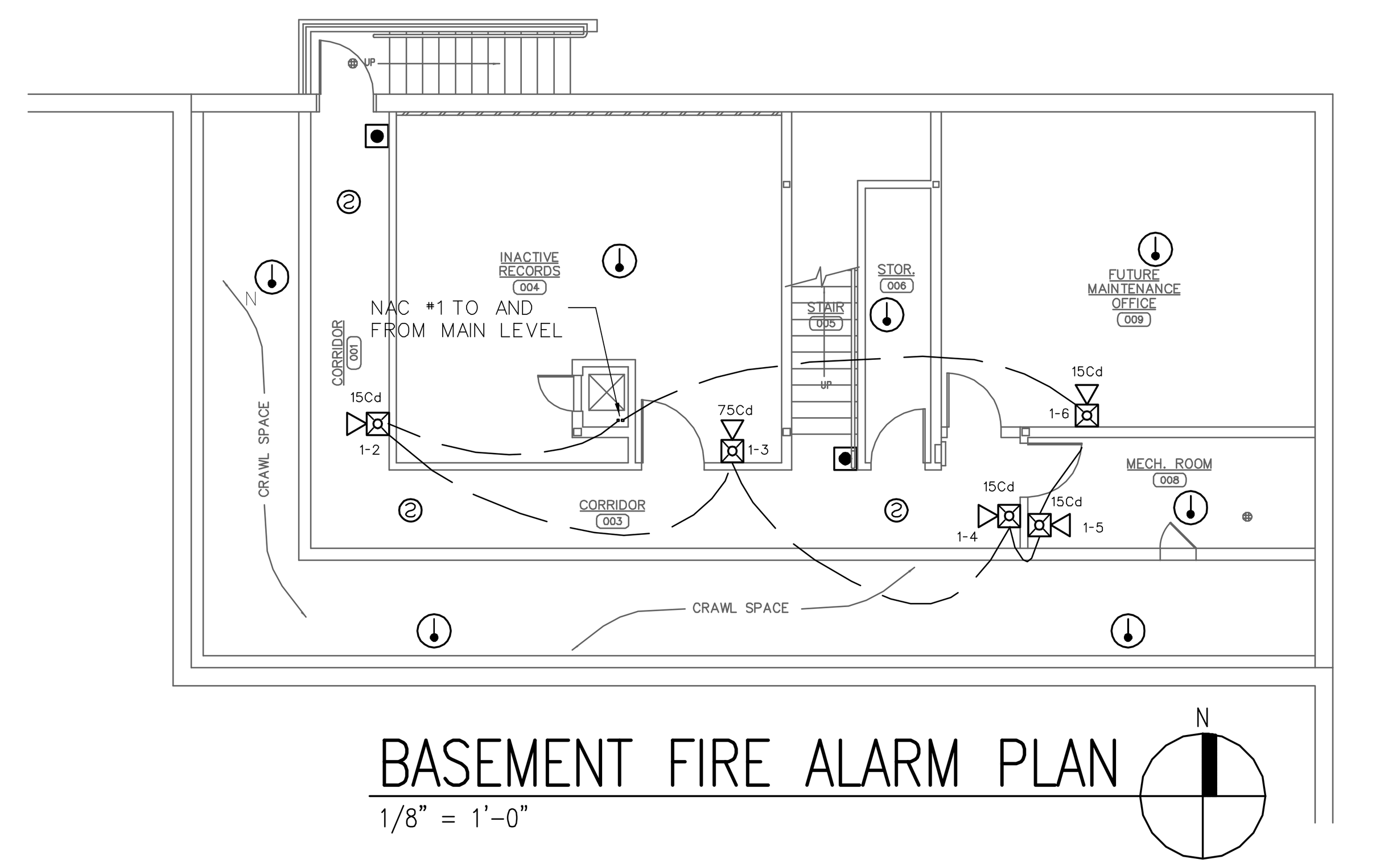
13. FIRE SAFETY FUNCTIONS: CONTROL MODULES WITH RELAY CONTACTS SHALL BE INSTALLED AND PROGRAMMED TO PROVIDE DOOR RELEASE, FAN SHUTDOWN, RELEASE OF DELAYED EGRESS EXIT DOORS & ACTIVATION OF NOTIFICATION CIRCUIT POWER SUPPLIES (UNLESS PROVIDED BY SEPARATE CIRCUIT FROM FACP). THE CONTROL RELAY MODULES SHALL BE INSTALLED WITHIN 36" OF DEVICE OR CIRCUIT CONTROLLED. (1)

14. PHASING: PLAN SEQUENCE OF WORK TO MINIMIZE DOWN TIME OF FIRE ALARM SYSTEM. IT IS THE INSTALLER'S RESPONSIBILITY TO NOTIFY PROPER AUTHORITIES AND PROVIDE A FIRE WATCH DURING INTERRUPTIONS OF FIRE DETECTION AND ALARM SERVICE IN THE BUILDING.

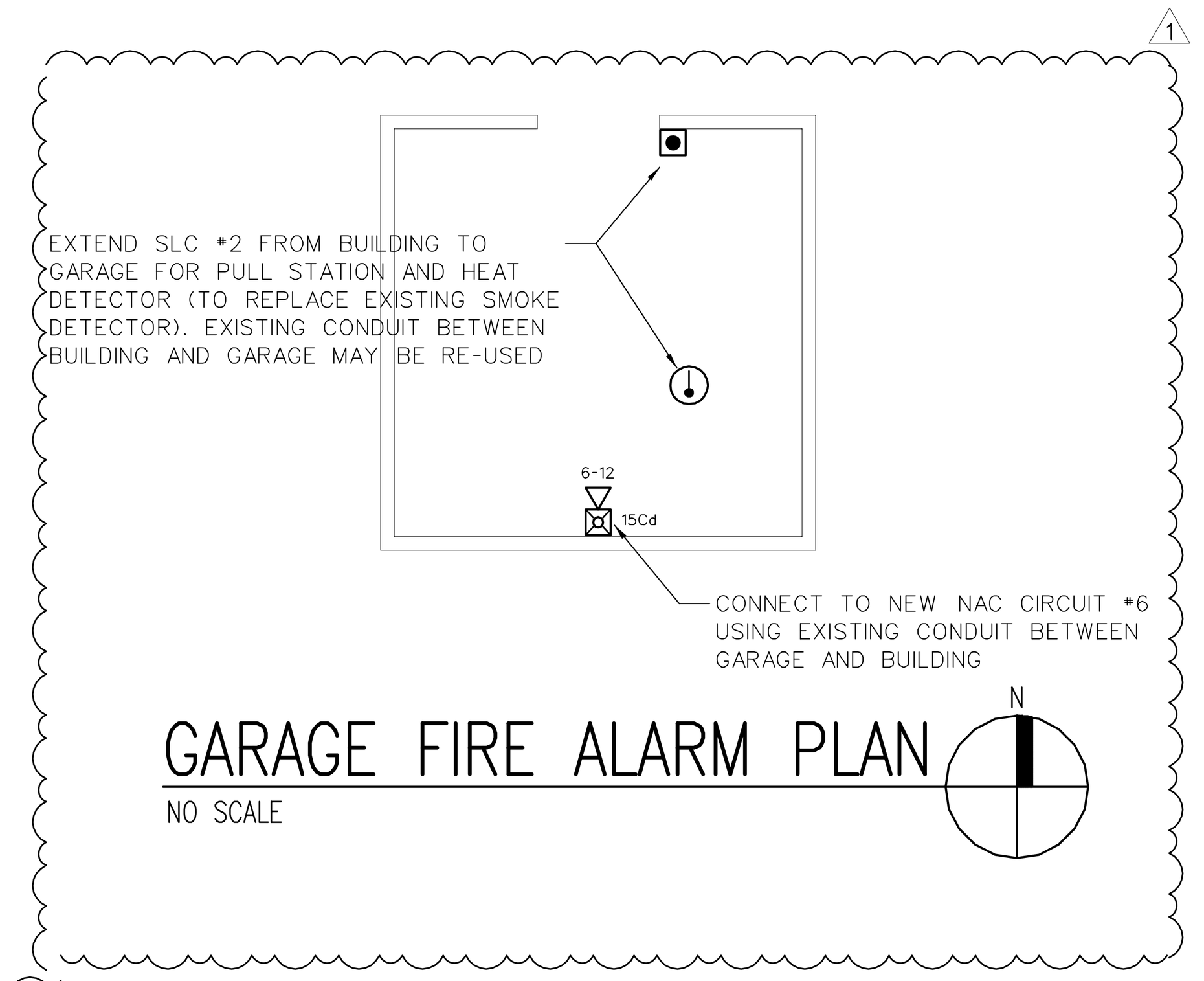
15. TESTING: SCHEDULE AND PERFORM ALL ACCEPTANCE TESTS REQUIRED BY NFPA 72. TESTING SHALL BE WITNESSED BY STATE FIRE MARSHAL'S OFFICE, PROJECT ENGINEER, DFCM AND BUILDING MAINTENANCE PERSONNEL. SUBMIT A WRITTEN TESTING PLAN DETAILING EACH TEST TO BE PERFORMED TO EACH AGENCY AT LEAST ONE DAY PRIOR TO SCHEDULED TEST.



MAIN LEVEL FIRE ALARM PLAN
1/8" = 1'-0"



BASEMENT FIRE ALARM PLAN
1/8" = 1'-0"



GARAGE FIRE ALARM PLAN
NO SCALE

FIRE ALARM SYSTEM KEY NOTES

01 REMOVE EXISTING CONVENTIONAL FIRE ALARM CONTROL PANEL (FACP), MODULES AND ENCLOSURE. FURNISH AND INSTALL NEW ADDRESSABLE FACP AT LOCATION OF EXISTING PANEL. INSTALL FACP RECESSED INTO WALL, PATCH AND PAINT WALL TO MATCH SURROUNDING SURFACE. FACP SHALL HAVE ALPHANUMERIC ANNUNCIATOR AND DIGITAL COMMUNICATOR. FACP SHALL BE SILENT KNIGHT MODEL 5820XL OR FIRE-LITE MODEL MS-9600 WITH DACT-UD. FACP SHALL PROVIDE ALL REQUIRED PROTECTED PREMISES FIRE SAFETY FUNCTIONS (FIRE DOOR RELEASE, FAN SHUTDOWN, AND RELEASE ACCESS CONTROLLED SECURE EGRESS DOORS). FACP SHALL RELAY FIRE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO OFF-PREMISE CENTRAL STATION USING DIGITAL COMMUNICATOR AND NEW PHONE LINES (PRIMARY & SECONDARY).

02 EXISTING DIGITAL ALARM COMMUNICATOR/TRANSMITTER (DACT) PROVIDES OFF-PREMISE MONITORING FOR EXISTING FIRE ALARM AND SECURITY SYSTEMS. MODIFY DACT TO COMMUNICATE SECURITY SIGNALS ONLY. OFF-PREMISE FIRE ALARM SIGNALS TO BE TRANSMITTED BY NEW FIRE ALARM CONTROL PANEL. EXTEND NEW PHONE LINES FROM NEAREST TELEPHONE BOARD TO FACP AS REQUIRED.

03 EXISTING ANNUNCIATOR PANEL FOR CONVENTIONAL FIRE ALARM SYSTEM TO BE REMOVED. FURNISH AND INSTALL NEW REMOTE ANNUNCIATOR FOR ADDRESSABLE FIRE ALARM SYSTEM AT SAME LOCATION. PROVIDE DECORATIVE COVER PLATES (APPROVED BY OWNER) OR PATCH WALL AT VOID SPACE CREATED BY REMOVAL OF LARGER, EXISTING ANNUNCIATOR.

04 FURNISH AND INSTALL NEW REMOTE POWER SUPPLIES TO PROVIDE 24 VDC POWER TO NEW NOTIFICATION APPLIANCE CIRCUITS, MAGNETIC DOOR HOLD-OPEN DEVICES AND PROJECTED BEAM SMOKE DETECTORS. POWER SUPPLIES SHALL BE INSTALLED IN SAME LOCATION AS EXISTING POWER SUPPLY TO BE REMOVED. INSTALL POWER SUPPLIES RECESSED INTO WALL, PATCH AND PAINT WALL TO MATCH SURROUNDING SURFACE. PROVIDE ADDRESSABLE MONITOR MODULE TO SUPERVISE TROUBLE OUTPUT OF REMOTE POWER SUPPLY AND PROVIDE BACKUP BATTERIES SIZED TO MEET STANDBY DEMAND OF POWER SUPPLY FOR 24 HOURS WITH AN ADDITIONAL RESERVE FOR 5 MINUTES OF ALARM POWER. NUMBER AND CAPACITY OF POWER SUPPLIES AND LAYOUT OF NOTIFICATION APPLIANCE CIRCUITS SHALL LIMIT VOLTAGE DROP BETWEEN POWER SUPPLY AND MOST REMOTE DEVICE ON CIRCUIT TO LESS THAN 20%. PROVIDE MODULES AS REQUIRED TO SYNCHRONIZE STROBE FLASHES OF ALL NOTIFICATION APPLIANCES WITHIN A SINGLE FIELD OF VIEW. NOTIFICATION CIRCUITS TO BE ACTIVATED BY NEW ADDRESSABLE RELAYS CONTROLLED BY FACP.

05 FURNISH AND INSTALL A PROGRAMMABLE RELAY TO SHUT DOWN EACH AIR HANDLER WITH A CAPACITY IN EXCESS OF 2,000 CFM. CONTROL RELAYS SHALL BE NORMALLY ENERGIZED AND FAN CONTROLS SHALL BE CONNECTED TO NORMALLY CLOSED CONTACTS ON THE RELAYS. RELAYS SHALL BE PROGRAMMED TO SHUT DOWN ALL AIR HANDLERS SIMULTANEOUSLY UPON ACTIVATION OF ANY AREA OR DUCT SMOKE DETECTOR AND SHALL NOT RESTORE UNTIL THE FACP HAS RESET.

06 EXISTING PROJECTED BEAM SMOKE DETECTOR TO REMAIN. PROVIDE 24 VDC, RESET SUPERVISED, CONTINUOUS POWER TO EXISTING DETECTOR FROM FACP OR REMOTE POWER SUPPLY. FURNISH AND INSTALL MONITOR MODULES AT DETECTOR TO FACILITATE MONITORING OF EACH DETECTOR AS AN ADDRESSABLE POINT. PROVIDE ONE MODULE TO MONITOR ALARM CONTACTS AND A SECOND MODULE TO MONITOR TROUBLE.

07 FURNISH AND INSTALL A PERMANENT SIGN MOUNTED ON EACH COURTROOM DOOR STATING: MAXIMUM OCCUPANCY - 48. SIGN SHALL BE NO SMALLER THAN 10" WIDE BY 8" TALL. BLOCK LETTERING AT LEAST 1" TALL SHALL BE USED. COLOR AND STYLE OF SIGN TO BE APPROVED BY OWNER.

08 PROVIDE PROGRAMMABLE RELAY TO RELEASE ALL NEW AND EXISTING MAGNETIC DOOR HOLD-OPEN DEVICES ON FIRE DOORS UPON RECEIPT OF ANY FIRE ALARM SIGNAL AT THE FACP. POWER TO MAGNET TO BE PROVIDED BY CIRCUIT FROM FACP. (1)

09 FURNISH AND INSTALL A FLUSH MOUNTED DOOR STRIKE ON DELAYED EGRESS DOOR. PROVIDE CONTINUOUS 24VDC POWER TO STRIKE FROM FACP OR REMOTE POWER SUPPLY. UNDER NORMAL CONDITIONS STRIKE SHALL MAINTAIN DOOR CLOSED ALLOWING DOOR HARDWARE WITH BUILT-IN 15 SECOND DELAY TO OVERRIDE. UNDER FIRE ALARM CONDITIONS STRIKE SHALL RELEASE ALLOWING TOO TO OPEN IMMEDIATELY. (1)

10 PROVIDE TAMPER-PROOF ENCLOSURE TO PROTECT EACH DETECTOR INSTALLED IN DETENTION CELLS. EXISTING ENCLOSURE (IF PRESENT) MAY BE RE-USED IF IF COMPATIBLE WITH NEW DETECTOR. (1)

11 FURNISH AND INSTALL A PROTECTIVE COVER (STI-1100 OR EQUAL) WITH AUDIBLE ALARM OVER MANUAL FIRE ALARM PULL STATION TO DISCOURAGE FALSE ACTUATION (1)

FIRE ALARM EQUIPMENT LEGEND

SYMBOL	DESCRIPTION	MOUNTING	REMARKS
FACP	NEW ADDRESSABLE FIRE ALARM CONTROL PANEL TO REPLACE EXISTING CONVENTIONAL PANEL	MOUNT RECESSED INTO WALL AT LOCATION OF EXISTING FACP TO BE REMOVED.	SILENT KNIGHT MODEL 5820XL OR FIRE-LITE MODEL MS-9600 WITH DACT-UD.
ANN	NEW FIRE ALARM REMOTE ANNUNCIATOR PANEL TO REPLACE EXISTING ANNUNCIATOR.	MOUNT ON NEW OR EXISTING J-BOX RECESSED INTO WALL.	ANNUNCIATOR SHALL HAVE A BUILT-IN LCD (MINIMUM OF 80 CHARACTERS) TO DISPLAY STATUS OF FIRE ALARM SYSTEM AS WELL AS NAME AND ADDRESS OF ANY DEVICE INDICATING AN ALARM, OR TROUBLE CONDITION. ANNUNCIATOR SHALL HAVE INPUT KEYS TO ALLOW ALARM SILENCE AND SYSTEM RESET.
NAC-PS	NEW REMOTE NOTIFICATION CURCUIT POWER SUPPLIES TO REPLACE EXISTING POWER SUPPLY.	MOUNT RECESSED INTO WALL AT LOCATION OF EXISTING POWER SUPPLY TO BE REPLACED.	TO POWER NOTIFICATION APPLIANCES, MAGNETIC DOOR HOLD-OPEN DEVICES AND PROJECTED BEAM SMOKE DETECTORS.
DACT	EXISTING DIGITAL ALARM COMMUNICATOR/ TRANSMITTER.	EXISTING	EXISTING DACT TO BE RECONFIGURED. FUNCTION OF DACT TO BE BUILT-INTO NEW ADDRESSABLE FACP. EXTEND EXISTING PRIMARY AND SECONDARY TELEPHONE LINES FROM DACT TO FACP.
D	EXISTING MAGNETIC DOOR HOLD-OPEN DEVICE	EXISTING	CONNECT EXISTING DEVICE TO 24-VDC POWER FROM NEW FACP OR NEW REMOTE POWER SUPPLIES. POWER TO DEVICE SHALL BE CONTROLLED BY ADDRESSABLE RELAY.
S	NEW ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR TO REPLACE EXISTING DETECTOR.	CEILING MOUNTED ON EXISTING J-BOX.	REMOVE EXISTING CONVENTIONAL SMOKE DETECTORS AND REPLACE WITH NEW ADDRESSABLE SMOKE DETECTORS. SMOKE DETECTORS ARE REQUIRED IN ALL CORRIDORS AND LOBBIES AT A MAXIMUM SPACING OF 30' O.C.
S N	NEW ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	CEILING MOUNTED ON NEW RECESSED J-BOX.	ADD NEW SMOKE DETECTOR WHERE INDICATED ON PLAN.
(heat detector symbol)	NEW ADDRESSABLE HEAT DETECTOR (FIXED TEMPERATURE) TO REPLACE EXISTING DETECTOR.	CEILING MOUNT ON EXISTING J-BOX.	REMOVE EXISTING CONVENTIONAL DETECTOR AND REPLACE WITH NEW ADDRESSABLE HEAT DETECTOR. MAXIMUM SPACING OF DETECTORS SHALL CONFORM TO NFPA 72 AND MANUFACTURER'S REQUIREMENTS.
(heat detector symbol) N	NEW ADDRESSABLE HEAT DETECTOR (FIXED TEMPERATURE).	CEILING MOUNT ON NEW RECESSED J-BOX.	ADD NEW HEAT DETECTOR WHERE INDICATED ON PLANS.
BD	EXISTING PROJECTED BEAM SMOKE DETECTOR	EXISTING.	EXISTING DETECTOR TO REMAIN. PROVIDE SUPERVISED 24 VDC POWER TO EXISTING DETECTOR FROM NEW FACP. PROVIDE ADDRESSABLE MONITOR MODULES TO FACILITATE MONITORING OF DETECTOR AS AN ADDRESSABLE POINT.
(pull station symbol)	NEW ADDRESSABLE MANUAL PULL STATION TO REPLACE EXISTING PULL STATION.	MOUNT ON EXISTING J-BOX.	REPLACE EXISTING PULL STATIONS WITH NEW ADDRESSABLE PULL STATIONS COMPATIBLE WITH NEW FACP.
(pull station symbol) N	NEW ADDRESSABLE MANUAL PULL STATION.	WALL MOUNT ON NEW RECESSED J-BOX AT 48" AFF..	ADD NEW PULL STATION WHERE INDICATED ON PLAN.
SD	NEW ADDRESSABLE DUCT SMOKE DETECTOR	DUCT MOUNTED IN SUPPLY AND RETURN DUCTS PER MANUFACTURER'S REQUIREMENTS.	INSTALL DUCT SMOKE DETECTORS IN SUPPLY AND RETURN DUCTS OF ALL AIR MOVEMENT SYSTEMS WITH A CAPACITY IN EXCESS OF 2000 CFM PER NFPA 72, NFPA 90 AND THE IMC.
M	NEW ADDRESSABLE MONITOR MODULE	MOUNT ON NEW J-BOX NEAR CONVENTIONAL DEVICE TO BE MONITORED.	CONNECT TO CONTACTS OF CONVENTIONAL DEVICE TO FACILITATE MONITORING OF DEVICE AS AN ADDRESSABLE POINT.
C	NEW ADDRESSABLE RELAY MODULE	MOUNT ON J-BOX WITHIN 3' OF DEVICE OR CIRCUIT CONTROLLED.	TO PROVIDE PROTECTED PREMISE FIRE FIRE SAFETY FUNCTIONS SUCH AS DOOR RELEASE, FAN SHUTDOWN AND SECURE DOOR RELEASE.
(horn/strobe symbol)	NEW FIRE ALARM HORN/STROBE TO REPLACE EXISTING HORN/STROBE	WALL MOUNT ON EXISTING JUNCTION BOX	CANDELA RATING OF STROBE SHALL BE AS INDICATED ON DRAWINGS. STROBES SHALL BE SYNCHRONIZED WITH ALL OTHER STROBES IN VIEW. DEVICE SHALL BE POWERED FROM FACP OR REMOTE NOTIFICATION APPLIANCE CIRCUIT POWER SUPPLY.
(horn/strobe symbol) N	NEW FIRE ALARM HORN/STROBE	WALL MOUNT AT 80" AFF ON NEW, RECESSED J-BOX.	
(strobe symbol)	NEW FIRE ALARM STROBE TO REPLACE EXISTING NOTIFICATION APPLANCE	CEILING OR WALL MOUNT AT 80" TO 96" AFF	
(ceiling horn/strobe symbol) N	NEW FIRE ALARM HORN/STROBE	CEILING MOUNTED ON RECESSED J-BOX.	
(dashed symbol)	EXISTING NOTIFICATION APPLIANCE TO BE REMOVED.	EXISTING TO BE REMOVED.	REMOVE EXISTING DEVICE AND WIRING AND PROVIDE COVER PLATE (APPROVED BY OWNER) FOR EXISTING J-BOX.
(exterior horn symbol)	NEW EXTERIOR FIRE ALARM HORN TO REPLACE EXISTING	WALL MOUNTED ON WEATHERPROOF J-BOX	APPLIANCE SHALL BE LISTED FOR EXTERIOR INSTALLATION. EXISTING J-BOX MAY BE RE-USED IF WEATHERPROOF
D (diamond)	MAGNETIC DOOR HOLD-OPEN DEVICE (NEW)	SURFACE MOUNT ON WALL. PROVIDE CONCEALED CONDUIT FOR POWER CIRCUIT.	DOOR HOLDER FOR NORMALLY OPEN DOOR IN RATED WALL. SUPERVISED 24 VDC POWER TO DOOR HOLDER SHALL BE SUPPLIED BY FACP. PROVIDE CONTROL MODULE TO RELEASE MAGNET UNDER FIRE ALARM CONDITION
S	FLUSH MOUNT DOOR STRIKE	REPLACE EXISTING STRIKE	TO ALLOW IMMEDIATE RELEASE OF DELAYED EGRESS DOOR UNDER FIRE ALARM CONDITION. PROVIDE 24VDC TO STRIKE FROM FACP AND CONTROL WITH ADDRESSABLE RELAY

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CEDAR CITY HALL OF JUSTICE
CEDAR CITY, UTAH

FIRE ALARM SYSTEM UPGRADE
DFCM PROJECT #06109150

MAIN FLOOR/ BASEMENT
FA-1

FIRE ALARM SYSTEM GENERAL NOTES

1. SCOPE OF WORK: WORK SHALL INCLUDE REMOVAL OF EXISTING CONVENTIONAL FIRE ALARM SYSTEM INCLUDING ALL CONTROL EQUIPMENT, POWER SUPPLIES, CABINETS, INIT. CIRCUITS AND DEVICES, NOTIFICATION APPLIANCE CIRCUITS AND DEVICES. INSTALL NEW FIRE ALARM SYSTEM INCLUDING CONTROL PANEL WITH NEW SIGNALING LINE CIRCUITS, INITIATING DEVICE CIRCUITS AND NOTIFICATION APPLIANCE CIRCUITS. NEW FIRE ALARM SYSTEM SHALL BE IN ACCORDANCE WITH NFPA 72, THESE DRAWINGS AND SPECIFICATIONS.

2. APPLICABLE CODES/STANDARDS:
   INTERNATIONAL BUILDING CODE - 2003 EDITION
   INTERNATIONAL FIRE CODE - 2003 EDITION
   INTERNATIONAL MECHANICAL CODE - 2003 EDITION
   UTAH STATE FIRE MARSHAL RULE R710-4
   NFPA 70 - 2002 EDITION
   NFPA 72 - 2002 EDITION
   NFPA 90A - 2002 EDITION

3. QUALITY ASSURANCE: ALL EQUIPMENT, MATERIAL AND DEVICES USED FOR THE FIRE ALARM SYSTEM INSTALLATION SHALL BE UL LISTED AND/OR FM APPROVED FOR USE IN FIRE PROTECTION SYSTEMS. ALL INITIATING DEVICES SHALL BE LISTED COMPATIBLE WITH THE FIRE ALARM CONTROL PANEL (FACP). MAJOR SYSTEM COMPONENTS (CONTROL PANELS, INITIATING DEVICES, ADDRESSABLE MODULES AND RELAYS, POWER SUPPLIES, ETC.) SHALL BE FROM A STATE OF UTAH DFCM APPROVED MANUFACTURER. APPROVED MANUFACTURERS INCLUDE FIRE-LITE AND SILENT KNIGHT.

4. SUBMITTALS: FIRE ALARM SYSTEM CONTRACTOR SHALL PREPARE AND SUBMIT SHOPS DRAWINGS TO STATE FIRE MARSHAL, OWNER AND ENGINEER FOR REVIEW/APPROVAL PRIOR TO ORDERING OR INSTALLING ANY EQUIPMENT. SUBMITTALS SHALL CONFORM TO THE CONSTRUCTION DOCUMENTS REQUIREMENTS OF IFC 907.1.1.

5. DEMOLITION: IT IS THE INSTALLER'S RESPONSIBILITY FOR THE DEMOLITION OF THE EXISTING FIRE ALARM SYSTEM. ALL NEW DEVICES AND CIRCUITS WILL REPLACE THE OLD AND GENERALLY REUSE THE EXISTING LOCATIONS. ANY EXISTING DEVICES AND CONDUIT NOT BEING REPLACED AND REUSED THAT ARE VISIBLE, SUCH AS CABINETS NOTIFICATION APPLIANCES OR SMOKE DETECTORS SHALL BE ~~REMOVED AND REMAINING WALL OR CEILING SURFACE REPAIRED OR~~ REPLACED TO MATCH SURROUNDING AREAS. WHERE PROFILE OF NEW WALL MOUNTED NOTIFICATION APPLIANCE IS SMALLER THAN EXISTING DEVICE REMOVED CONTRACTOR SHALL PAINT NEWLY EXPOSED WALL SURFACE TO MATCH EXISTING OR SHALL PROVIDE A DECORATIVE WALL PLATE OR ESCUTCHEON APPROVED BY THE OWNER. (1) ~~REMOVE ALL UNUSED~~ WIRE IN ALL REMAINING J-BOXES AND/OR CONDUITS. ANY CEILING TILE DAMAGED BY THE INSTALLER MUST BE REPLACED WITH THE SAME OR EQUIVALENT TILE.

6. SYSTEM TYPE: FIRE ALARM SYSTEM SHALL MEET THE REQUIREMENTS FOR PROTECTED PREMISE FIRE ALARM SYSTEMS. SYSTEM SHALL PROVIDE OFF-PREMISE NOTIFICATION OF STATUS TO CENTRAL STATION DETERMINED BY OWNER.

7. OCCUPANT NOTIFICATION: RECEIPT OF ANY FIRE ALARM SIGNAL AT THE FACP SHALL RESULT IN THE ACTIVATION OF ALL NOTIFICATION APPLIANCES IN THE BUILDING (STROBES AND HORN/STROBES). FOR PURPOSES OF FIRE ALARM NOTIFICATION, THE BUILDING SHALL BE CONSIDERED AS A SINGLE ZONE.

8. WIRING/CONDUIT: ALL WIRING SHALL BE NEW (EXISTING WIRING MAY NOT BE RE-USED) AND SHALL BE FREE OF OPENS, SHORTS AND GROUNDS. ALL WIRING SHALL BE INSTALLED IN RIGID CONDUIT OR EMT. FLEXIBLE CONDUIT MAY BE USED FOR DROPS TO SINGLE DEVICES (MAXIMUM 6'). MINIMUM CONDUIT SIZE SHALL BE 1/2". CONDUIT SHALL BE CONCEALED IN FINISHED AREAS AND MAY BE EXPOSED IN UNFINISHED AREAS. PAINT EXPOSED CONDUIT TO MATCH COLOR OF SURROUNDING BUILDING ELEMENTS. ALL PENETRATIONS THROUGH RATED PARTITIONS SHALL BE FIRE STOPPED WITH A SUITABLE CAULKING COMPOUND. ALL WIRING USED IN THE FIRE ALARM SYSTEM SHALL BE FPL (FIRE, POWER LIMITED) WITH MINIMUM 300V INSULATION OR EQUIVALENT AS PER NFPA 70 ARTICLE 760.

9. WIRING STYLES(PER NFPA 72): INITIATING DEVICE CIRCUITS SHALL MEET THE REQUIREMENTS FOR CLASS A STYLE D CIRCUITS. SIGNALING LINE CIRCUITS SHALL MEET THE REQUIREMENTS FOR CLASS A STYLE 6 OR 7 CIRCUITS. NOTIFICATION APPLIANCE CIRCUITS SHALL MEET THE REQUIREMENTS FOR CLASS A STYLE Z.

10. POWER: EXISTING DEDICATED BRANCH CIRCUITS MAY BE REUSED TO PROVIDE PRIMARY POWER TO NEW FACP AND REMOTE NOTIFICATION CIRCUIT POWER SUPPLIES. FURNISH A BATTERY BACKUP TO PROVIDE SECONDARY POWER SUPPLY TO FIRE ALARM PANEL AND NOTIFICATION CIRCUIT POWER SUPPLIES. BATTERY BACKUP SHALL BE OF SUFFICIENT CAPACITY TO PROVIDE 24 HOURS OF STANDBY POWER WITH AN ADDITIONAL RESERVE TO OPERATE SYSTEM FOR 5 MINUTES IN ALARM.

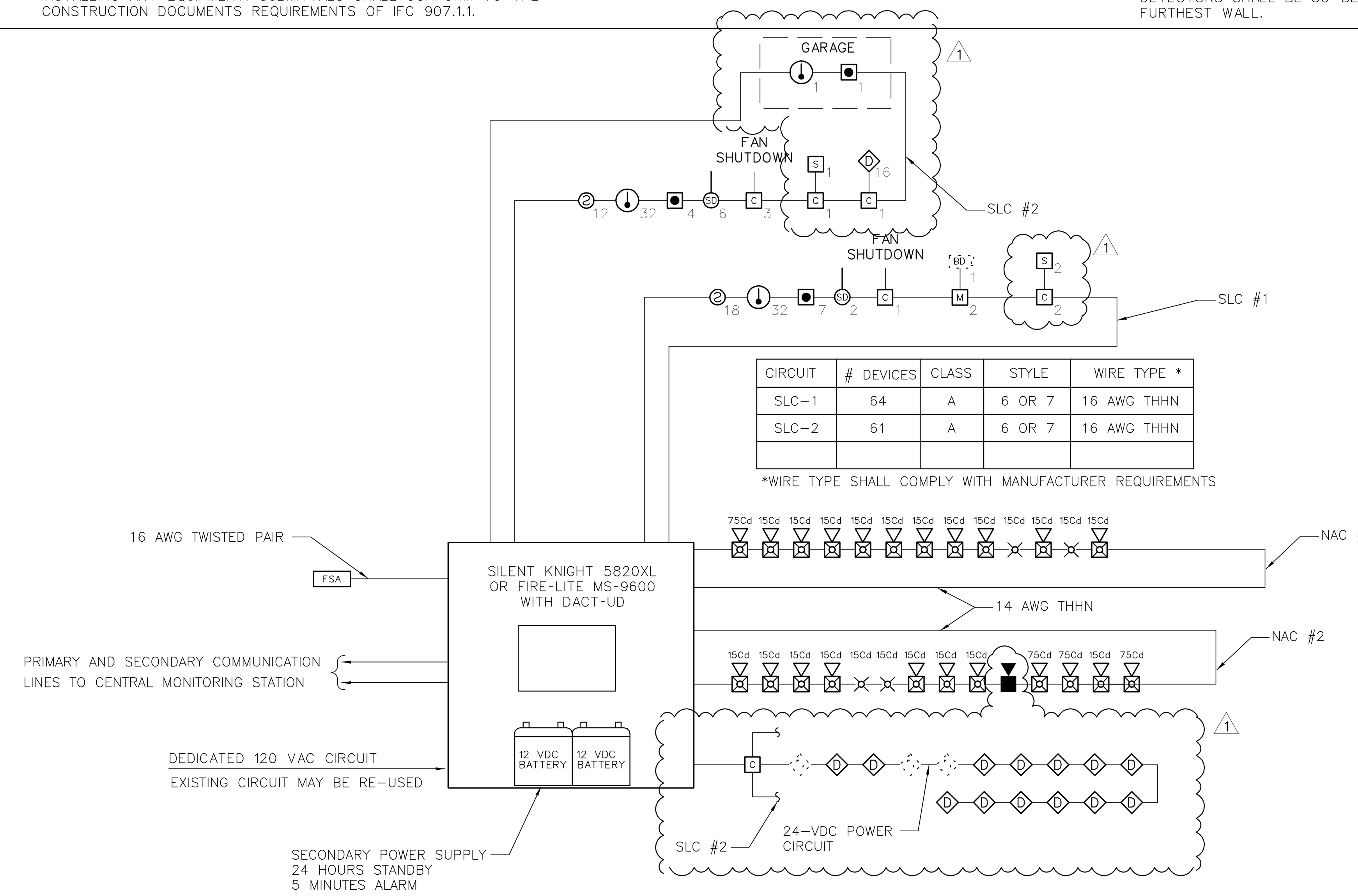
11. INITIATING DEVICES:
    SLC CIRCUITS: SLC LOOP DEVICE ADDRESSING SHALL NOT EXCEED 159 DETECTORS (SMOKES, HEATS, DUCT SMOKES, ETC.) OR 159 MODULES (PULL STATIONS, MONITOR, CONTROL, ETC.) PER LOOP. AT LEAST 30 ADDRESSES (20%) SHOULD BE LEFT VACANT ON EACH SLC LOOP IN ORDER TO ALLOW SPACE FOR ADJUSTMENTS/EXPANSION:
    SMOKE DETECTORS: PROVIDE SMOKE DETECTORS WHERE SHOWN ON PLANS IN ALL CORRIDORS AND LOBBIES. MAXIMUM SPACING OF DETECTORS SHALL BE 30' BETWEEN DETECTORS OR 15' FROM FURTHEST WALL.
    MANUAL PULL STATIONS: INSTALL NEW PULL STATIONS AT SAME LOCATION AND HEIGHT AS EXISTING PULL STATIONS USING EXISTING JUNCTION BOXES. WHERE NEW MANUAL PULL STATIONS ARE INDICATED ON THE PLAN INSTALL WITH OPERATING ELEMENT AT 48" AFF.
    HEAT DETECTORS: PROVIDE HEAT DETECTORS WHERE SHOWN ON PLANS IN ALL AREAS NOT PROTECTED WITH SMOKE DETECTORS. MAXIMUM SPACING FOR HEAT DETECTORS SHALL BE 50' BETWEEN DETECTORS OR 25' FROM FURTHEST WALL.
    ADDRESSABLE MODULES: PROVIDE ADDRESSABLE MODULES TO MONITOR EXISTING CONVENTIONAL DEVICES (PROJECTED BEAM SMOKE DETECTOR) TO REMAIN AND TROUBLE OUTPUT OF NEW NOTIFICATION CIRCUIT POWER SUPPLIES. LOCATE MONITOR MODULE ADJACENT TO DEVICE MONITORED IN AN ACCESSIBLE LOCATION OR ABOVE REMOVABLE CEILING TILE. LABEL AS PART OF THE FIRE ALARM SYSTEM WITH THE NAME OF THE DEVICE MONITORED ON THE COVER OF THE JUNCTION BOX.

12. NOTIFICATION APPLIANCES: PROVIDE AUDIBLE AND VISUAL NOTIFICATION APPLIANCES THROUGHOUT BUILDING. WALL MOUNTED DEVICES MAY BE INSTALLED ON EXISTING J-BOXES. VOLUME OF HORNS SHALL BE SUFFICIENT TO PROVIDE A SOUND LEVEL OF 15 Db ABOVE AMBIENT IN ALL OCCUPIED AREAS. VISIBLE ALARMS SHALL BE PROVIDED THROUGHOUT ALL OCCUPIED AREAS OF THE BUILDING INCLUDING PRIVATE OFFICES AND AREAS WITH POSSIBLE OCCUPANCY BY HEARING IMPAIRED PERSONS. STROBES ~~SHALL FLASH IN SYNCHRONIZATION.~~

13. FIRE SAFETY FUNCTIONS: CONTROL MODULES WITH RELAY CONTACTS SHALL BE INSTALLED AND PROGRAMMED TO PROVIDE DOOR RELEASE, FAN SHUTDOWN, RELEASE OF DELAYED EGRESS EXIT DOORS & ACTIVATION OF NOTIFICATION CIRCUIT POWER SUPPLIES (UNLESS PROVIDED BY SEPARATE CIRCUIT FROM FACP). THE CONTROL RELAY MODULES SHALL BE INSTALLED WITHIN 36" OF DEVICE OR CIRCUIT CONTROLLED. (1)

14. PHASING: PLAN SEQUENCE OF WORK TO MINIMIZE DOWN TIME OF FIRE ALARM SYSTEM. IT IS THE INSTALLER'S RESPONSIBILITY TO NOTIFY PROPER AUTHORITIES AND PROVIDE A FIRE WATCH DURING INTERRUPTIONS OF FIRE DETECTION AND ALARM SERVICE IN THE BUILDING.

15. TESTING: SCHEDULE AND PERFORM ALL ACCEPTANCE TESTS REQUIRED BY NFPA 72. TESTING SHALL BE WITNESSED BY STATE FIRE MARSHAL'S OFFICE, PROJECT ENGINEER, DFCM AND BUILDING MAINTENANCE PERSONNEL. SUBMIT A WRITTEN TESTING PLAN DETAILING EACH TEST TO BE PERFORMED TO EACH AGENCY AT LEAST ONE DAY PRIOR TO SCHEDULED TEST.

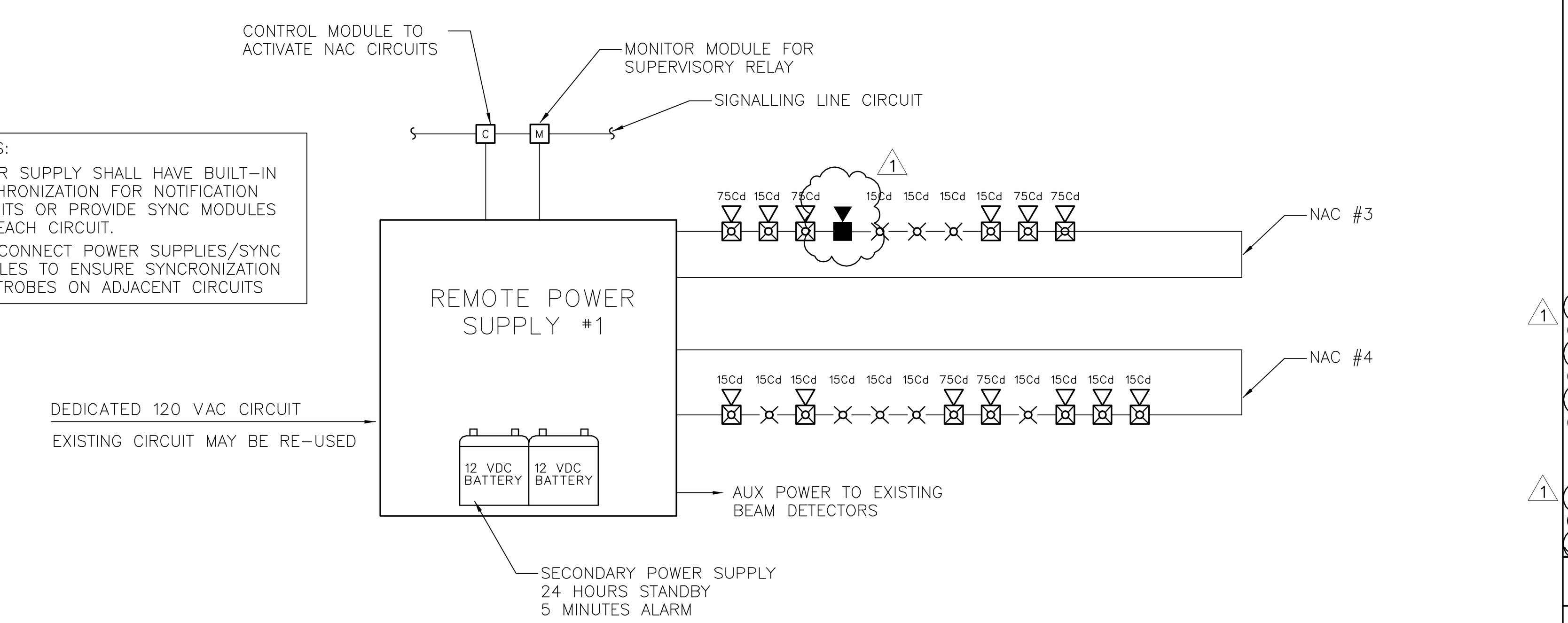


CIRCUIT	# DEVICES	CLASS	STYLE	WIRE TYPE *
SLC-1	64	A	6 OR 7	16 AWG THHN
SLC-2	61	A	6 OR 7	16 AWG THHN

*WIRE TYPE SHALL COMPLY WITH MANUFACTURER REQUIREMENTS

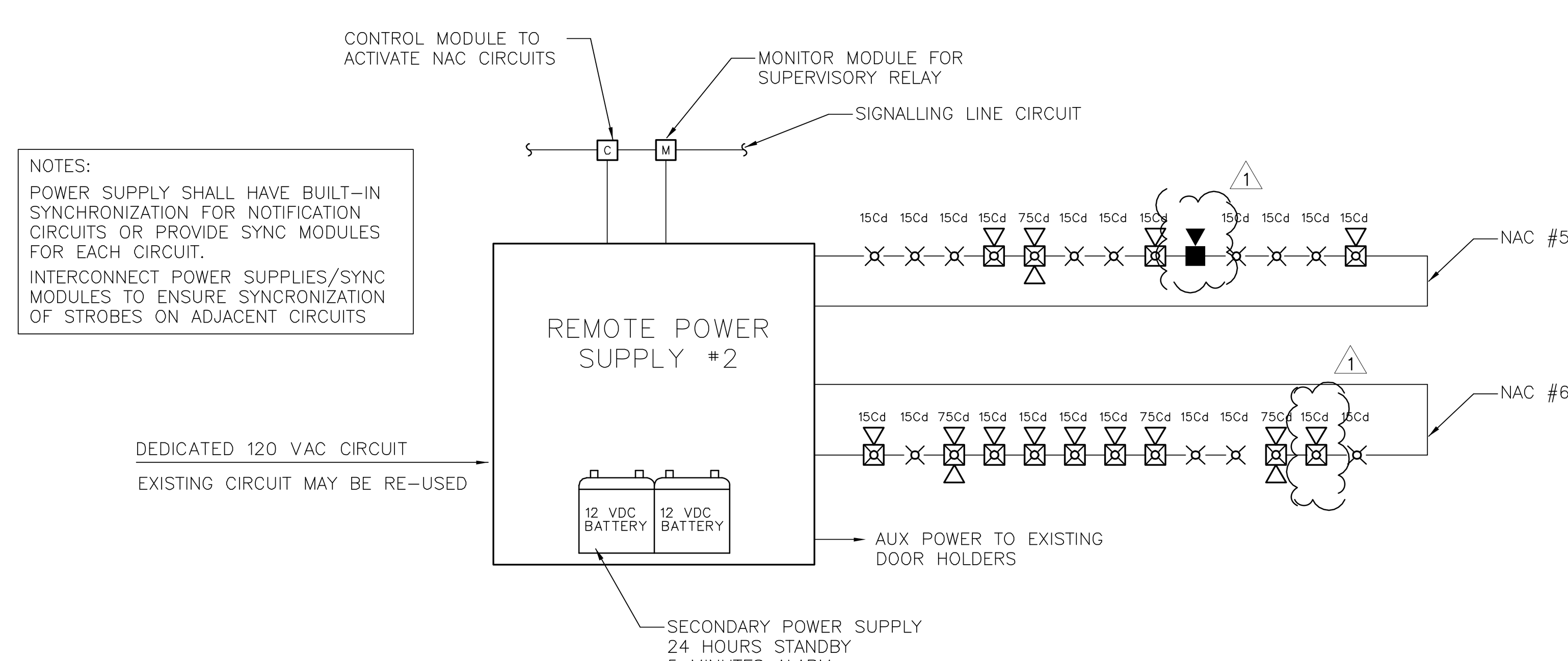
1 FIRE ALARM SINGLE LINE RISER DIAGRAM
NTS

NOTES:
POWER SUPPLY SHALL HAVE BUILT-IN SYNCHRONIZATION FOR NOTIFICATION CIRCUITS OR PROVIDE SYNC MODULES FOR EACH CIRCUIT.
INTERCONNECT POWER SUPPLIES/SYNC MODULES TO ENSURE SYNCRONIZATION OF STROBES ON ADJACENT CIRCUITS



2 REMOTE POWER SUPPLY #1 - SINGLE LINE RISER
NTS

NOTES:
POWER SUPPLY SHALL HAVE BUILT-IN SYNCHRONIZATION FOR NOTIFICATION CIRCUITS OR PROVIDE SYNC MODULES FOR EACH CIRCUIT.
INTERCONNECT POWER SUPPLIES/SYNC MODULES TO ENSURE SYNCRONIZATION OF STROBES ON ADJACENT CIRCUITS



3 REMOTE POWER SUPPLY #2 - SINGLE LINE RISER
NTS

OUTPUT ACTIONS

SYSTEM INPUTS	ACTIVATE LOCAL FIRE ALARM NOTIFICATION APPLIANCES (ALL CIRCUITS)	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	SHUT DOWN AIR HANDLERS	RELEASE DOOR HOLD-OPEN DEVICES	RELEASE DELAYED EGRESS DOORS	
ACTIVATION OF ANY SMOKE DETECTOR	X	X			X	X	X	
~~ACTIVATION OF ANY HEAT DETECTOR~~	X	X			X	X	X	
ACTIVATION OF ANY DUCT SMOKE DETECTOR			X		X			
~~ACTIVATION OF ANY MANUAL PULL STATION~~	X	X			X	X	X	
RECEIPT OF TROUBLE SIGNAL FROM REMOTE POWER SUPPLY				X				
LOSS OF AC POWER/LOW BATTERY VOLTAGE				X				
SYSTEM TROUBLE				X				

3 SEQUENCE OF OPERATION
NTS

FIRE ALARM SYSTEM KEY NOTES

01 REMOVE EXISTING CONVENTIONAL FIRE ALARM CONTROL PANEL (FACP), MODULES AND ENCLOSURE. FURNISH AND INSTALL NEW ADDRESSABLE FACP AT LOCATION OF EXISTING PANEL. INSTALL FACP RECESSED INTO WALL, PATCH AND PAINT WALL TO MATCH SURROUNDING SURFACE. FACP SHALL HAVE ALPHANUMERIC ANNUNCIATOR AND DIGITAL COMMUNICATOR. FACP SHALL BE SILENT KNIGHT MODEL 5820XL OR FIRE-LITE MODEL MS-9600 WITH DACT-UD. FACP SHALL PROVIDE ALL REQUIRED PROTECTED PREMISES FIRE SAFETY FUNCTIONS (FIRE DOOR RELEASE, FAN SHUTDOWN, AND RELEASE ACCESS CONTROLLED SECURE EGRESS DOORS). FACP SHALL RELAY FIRE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO OFF-PREMISE CENTRAL STATION USING DIGITAL COMMUNICATOR AND NEW PHONE LINES (PRIMARY & SECONDARY).

02 EXISTING DIGITAL ALARM COMMUNICATOR/TRANSMITTER (DACT) PROVIDES OFF-PREMISE MONITORING FOR EXISTING FIRE ALARM AND SECURITY SYSTEMS. MODIFY DACT TO COMMUNICATE SECURITY SIGNALS ONLY. OFF-PREMISE FIRE ALARM SIGNALS TO BE TRANSMITTED BY NEW FIRE ALARM CONTROL PANEL. EXTEND NEW PHONE LINES FROM NEAREST TELEPHONE BOARD TO FACP AS REQUIRED.

03 EXISTING ANNUNCIATOR PANEL FOR CONVENTIONAL FIRE ALARM SYSTEM TO BE REMOVED. FURNISH AND INSTALL NEW REMOTE ANNUNCIATOR FOR ADDRESSABLE FIRE ALARM SYSTEM AT SAME LOCATION. PROVIDE DECORATIVE COVER PLATES (APPROVED BY OWNER) OR PATCH WALL AT VOID SPACE CREATED BY REMOVAL OF LARGER, EXISTING ANNUNCIATOR.

04 FURNISH AND INSTALL NEW REMOTE POWER SUPPLIES TO PROVIDE 24 VDC POWER TO NEW NOTIFICATION APPLIANCE CIRCUITS, MAGNETIC DOOR HOLD-OPEN DEVICES AND PROJECTED BEAM SMOKE DETECTORS. POWER SUPPLIES SHALL BE INSTALLED IN SAME LOCATION AS EXISTING POWER SUPPLY TO BE REMOVED. INSTALL POWER SUPPLIES RECESSED INTO WALL, PATCH AND PAINT WALL TO MATCH SURROUNDING SURFACE. PROVIDE ADDRESSABLE MONITOR MODULE TO SUPERVISE TROUBLE OUTPUT OF REMOTE POWER SUPPLY AND PROVIDE BACKUP BATTERIES SIZED TO MEET STANDBY DEMAND OF POWER SUPPLY FOR 24 HOURS WITH AN ADDITIONAL RESERVE FOR 5 MINUTES OF ALARM POWER. NUMBER AND CAPACITY OF POWER SUPPLIES AND LAYOUT OF NOTIFICATION APPLIANCE CIRCUITS SHALL LIMIT VOLTAGE DROP BETWEEN POWER SUPPLY AND MOST REMOTE DEVICE ON CIRCUIT TO LESS THAN 20%. PROVIDE MODULES AS REQUIRED TO SYNCHRONIZE STROBE FLASHES OF ALL NOTIFICATION APPLIANCES WITHIN A SINGLE FIELD OF VIEW. NOTIFICATION CIRCUITS TO BE ACTIVATED BY NEW ADDRESSABLE RELAYS CONTROLLED BY FACP.

05 FURNISH AND INSTALL A PROGRAMMABLE RELAY TO SHUT DOWN EACH AIR HANDLER WITH A CAPACITY IN EXCESS OF 2,000 CFM. CONTROL RELAYS SHALL BE NORMALLY ENERGIZED AND FAN CONTROLS SHALL BE CONNECTED TO NORMALLY CLOSED CONTACTS ON THE RELAYS. RELAYS SHALL BE PROGRAMMED TO SHUT DOWN ALL AIR HANDLERS SIMULTANEOUSLY UPON ACTIVATION OF ANY AREA OR DUCT SMOKE DETECTOR AND SHALL NOT RESTORE UNTIL THE FACP HAS RESET.

06 EXISTING PROJECTED BEAM SMOKE DETECTOR TO REMAIN. PROVIDE 24 VDC, RESET SUPERVISED, CONTINUOUS POWER TO EXISTING DETECTOR FROM FACP OR REMOTE POWER SUPPLY. FURNISH AND INSTALL MONITOR MODULES AT DETECTOR TO FACILITATE MONITORING OF EACH DETECTOR AS AN ADDRESSABLE POINT. PROVIDE ONE MODULE TO MONITOR ALARM CONTACTS AND A SECOND MODULE TO MONITOR TROUBLE.

07 FURNISH AND INSTALL A PERMANENT SIGN MOUNTED ON EACH COURTROOM DOOR STATING: MAXIMUM OCCUPANCY - 48. SIGN SHALL BE NO SMALLER THAN 10" WIDE BY 8" TALL. BLOCK LETTERING AT LEAST 1" TALL SHALL BE USED. COLOR AND STYLE OF SIGN TO BE APPROVED BY OWNER.

08 PROVIDE PROGRAMMABLE RELAY TO RELEASE ALL NEW AND EXISTING (1) MAGNETIC DOOR HOLD-OPEN DEVICES ON FIRE DOORS UPON RECEIPT OF ANY FIRE ALARM SIGNAL AT THE FACP. POWER TO MAGNET TO BE PROVIDED BY CIRCUIT FROM FACP.

(1) 09 FURNISH AND INSTALL A FLUSH MOUNTED DOOR STRIKE ON DELAYED EGRESS DOOR. PROVIDE CONTINUOUS 24VDC POWER TO STRIKE FROM FACP OR REMOTE POWER SUPPLY. UNDER NORMAL CONDITIONS STRIKE SHALL MAINTAIN DOOR CLOSED ALLOWING DOOR HARDWARE WITH BUILT-IN 15 SECOND DELAY TO OVERRIDE. UNDER FIRE ALARM CONDITIONS STRIKE SHALL RELEASE ALLOWING TOO TO OPEN IMMEDIATELY.

10 PROVIDE TAMPER-PROOF ENCLOSURE TO ~~PROTECT EACH~~ DETECTOR INSTALLED IN DETENTION CELLS. EXISTING ENCLOSURE (IF PRESENT) MAY BE RE-USED IF IF COMPATIBLE WITH NEW DETECTOR. (1)

(1) 11 FURNISH AND INSTALL A PROTECTIVE COVER (STI-1100 OR EQUAL) WITH AUDIBLE ALARM OVER MANUAL FIRE ALARM PULL STATION TO DISCOURAGE FALSE ACTUATION

FIRE ALARM EQUIPMENT LEGEND

SYMBOL	DESCRIPTION	MOUNTING	REMARKS
FACP	NEW ADDRESSABLE FIRE ALARM CONTROL PANEL TO REPLACE EXISTING CONVENTIONAL PANEL	MOUNT RECESSED INTO WALL AT LOCATION OF EXISTING FACP TO BE REMOVED.	SILENT KNIGHT MODEL 5820XL OR FIRE-LITE MODEL MS-9600 WITH DACT-UD.
ANN	NEW FIRE ALARM REMOTE ANNUNCIATOR PANEL TO REPLACE EXISTING ANNUNCIATOR.	MOUNT ON NEW OR EXISTING J-BOX RECESSED INTO WALL.	ANNUNCIATOR SHALL HAVE A BUILT-IN LCD (MINIMUM OF 80 CHARACTERS) TO DISPLAY STATUS OF FIRE ALARM SYSTEM AS WELL AS NAME AND ADDRESS OF ANY DEVICE INDICATING AN ALARM, OR TROUBLE CONDITION. ANNUNCIATOR SHALL HAVE INPUT KEYS TO ALLOW ALARM SILENCE AND SYSTEM RESET.
NAC-PS	NEW REMOTE NOTIFICATION CURCUIT POWER SUPPLIES TO REPLACE EXISTING POWER SUPPLY.	MOUNT RECESSED INTO WALL AT LOCATION OF EXISTING POWER SUPPLY TO BE REPLACED.	TO POWER NOTIFICATION APPLIANCES, MAGNETIC DOOR HOLD-OPEN DEVICES AND PROJECTED BEAM SMOKE DETECTORS.
DACT	EXISTING DIGITAL ALARM COMMUNICATOR/ TRANSMITTER.	EXISTING	EXISTING DACT TO BE RECONFIGURED. FUNCTION OF DACT TO BE BUILT-INTO NEW ADDRESSABLE FACP. EXTEND EXISTING PRIMARY AND SECONDARY TELEPHONE LINES FROM DACT TO FACP.
D	EXISTING MAGNETIC DOOR HOLD-OPEN DEVICE	EXISTING	CONNECT EXISTING DEVICE TO 24-VDC POWER FROM NEW FACP OR NEW REMOTE POWER SUPPLIES. POWER TO DEVICE SHALL BE CONTROLLED BY ADDRESSABLE RELAY.
S	NEW ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR TO REPLACE EXISTING DETECTOR.	CEILING MOUNTED ON EXISTING J-BOX.	REMOVE EXISTING CONVENTIONAL SMOKE DETECTORS AND REPLACE WITH NEW ADDRESSABLE SMOKE DETECTORS. SMOKE DETECTORS ARE REQUIRED IN ALL CORRIDORS AND LOBBIES AT A MAXIMUM SPACING OF 30' O.C.
S N	NEW ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	CEILING MOUNTED ON NEW RECESSED J-BOX.	ADD NEW SMOKE DETECTOR WHERE INDICATED ON PLAN.
(heat detector symbol)	NEW ADDRESSABLE HEAT DETECTOR (FIXED TEMPERATURE) TO REPLACE EXISTING DETECTOR.	CEILING MOUNT ON EXISTING J-BOX.	REMOVE EXISTING CONVENTIONAL DETECTOR AND REPLACE WITH NEW ADDRESSABLE HEAT DETECTOR. MAXIMUM SPACING OF DETECTORS SHALL CONFORM TO NFPA 72 AND MANUFACTURER'S REQUIREMENTS.
(heat detector symbol) N	NEW ADDRESSABLE HEAT DETECTOR (FIXED TEMPERATURE).	CEILING MOUNT ON NEW RECESSED J-BOX.	ADD NEW HEAT DETECTOR WHERE INDICATED ON PLANS.
BD	EXISTING PROJECTED BEAM SMOKE DETECTOR	EXISTING.	EXISTING DETECTOR TO REMAIN. PROVIDE SUPERVISED 24 VDC POWER TO EXISTING DETECTOR FROM NEW FACP. PROVIDE ADDRESSABLE MONITOR MODULES TO FACILITATE MONITORING OF DETECTOR AS AN ADDRESSABLE POINT.
(pull station symbol)	NEW ADDRESSABLE MANUAL PULL STATION TO REPLACE EXISTING PULL STATION.	MOUNT ON EXISTING J-BOX.	REPLACE EXISTING PULL STATIONS WITH NEW ADDRESSABLE PULL STATIONS COMPATIBLE WITH NEW FACP.
(pull station symbol) N	NEW ADDRESSABLE MANUAL PULL STATION.	WALL MOUNT ON NEW RECESSED J-BOX AT 48" AFF..	ADD NEW PULL STATION WHERE INDICATED ON PLAN.
SD	NEW ADDRESSABLE DUCT SMOKE DETECTOR	DUCT MOUNTED IN SUPPLY AND RETURN DUCTS PER MANUFACTURER'S REQUIREMENTS.	INSTALL DUCT SMOKE DETECTORS IN SUPPLY AND RETURN DUCTS OF ALL AIR MOVEMENT SYSTEMS WITH A CAPACITY IN EXCESS OF 2000 CFM PER NFPA 72, NFPA 90 AND THE IMC.
M	NEW ADDRESSABLE MONITOR MODULE	MOUNT ON NEW J-BOX NEAR CONVENTIONAL DEVICE TO BE MONITORED.	CONNECT TO CONTACTS OF CONVENTIONAL DEVICE TO FACILITATE MONITORING OF DEVICE AS AN ADDRESSABLE POINT.
C	NEW ADDRESSABLE RELAY MODULE	MOUNT ON J-BOX WITHIN 3' OF DEVICE OR CIRCUIT CONTROLLED.	TO PROVIDE PROTECTED PREMISE FIRE FIRE SAFETY FUNCTIONS SUCH AS DOOR RELEASE, FAN SHUTDOWN AND SECURE DOOR RELEASE.
(horn/strobe symbol)	NEW FIRE ALARM HORN/STROBE TO REPLACE EXISTING HORN/STROBE	WALL MOUNT ON EXISTING JUNCTION BOX	CANDELA RATING OF STROBE SHALL BE AS INDICATED ON DRAWINGS. STROBES SHALL BE SYNCHRONIZED WITH ALL OTHER STROBES IN VIEW. DEVICE SHALL BE POWERED FROM FACP OR REMOTE NOTIFICATION APPLIANCE CIRCUIT POWER SUPPLY.
(horn/strobe symbol) N	NEW FIRE ALARM HORN/STROBE	WALL MOUNT AT 80" AFF ON NEW, RECESSED J-BOX.	
(strobe symbol)	NEW FIRE ALARM STROBE TO REPLACE EXISTING NOTIFICATION APPLANCE	CEILING OR WALL MOUNT AT 80" TO 96" AFF	
(horn/strobe symbol) N	NEW FIRE ALARM HORN/STROBE	CEILING MOUNTED ON RECESSED J-BOX.	
(existing appliance symbol)	EXISTING NOTIFICATION APPLIANCE TO BE REMOVED.	EXISTING TO BE REMOVED.	REMOVE EXISTING DEVICE AND WIRING AND PROVIDE COVER PLATE (APPROVED BY OWNER) FOR ~~EXISTING J-BOX~~
(exterior horn symbol)	NEW EXTERIOR FIRE ALARM HORN TO REPLACE EXISTING	WALL MOUNTED ON WEATHERPROOF J-BOX	APPLIANCE SHALL BE LISTED FOR EXTERIOR INSTALLATION. EXISTING J-BOX MAY BE RE-USED IF WEATHERPROOF
D	MAGNETIC DOOR HOLD-OPEN DEVICE (NEW)	SURFACE MOUNT ON WALL. PROVIDE CONCEALED CONDUIT FOR POWER CIRCUIT.	DOOR HOLDER FOR NORMALLY OPEN DOOR IN RATED WALL. SUPERVISED 24 VDC POWER TO DOOR HOLDER SHALL BE SUPPLIED BY FACP. PROVIDE CONTROL MODULE TO RELEASE MAGNET UNDER FIRE ALARM CONDITION
S	FLUSH MOUNT DOOR STRIKE	REPLACE EXISTING STRIKE	TO ALLOW IMMEDIATE RELEASE OF DELAYED EGRESS DOOR UNDER FIRE ALARM CONDITION. PROVIDE 24VDC TO STRIKE FROM FACP AND CONTROL WITH ADDRESSABLE RELAY

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CEDAR CITY HALL OF JUSTICE
CEDAR CITY, UTAH

FIRE ALARM SYSTEM UPGRADE
DFCM PROJECT #06109150

DETAILS
FA-2